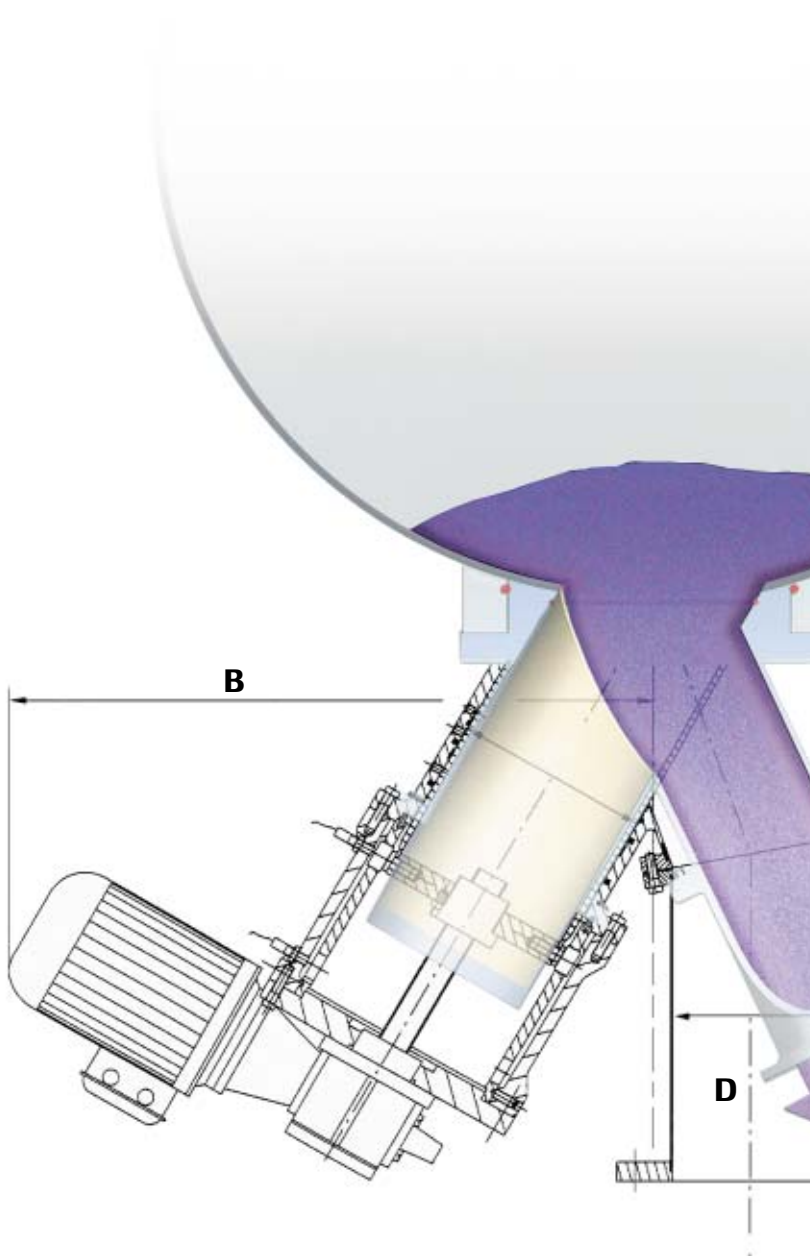

Lipstick Valve Bottom valve TBV without Dead Spots

**Discharge of products
by avoiding any
cross-contamination**



**Discharging, Dosing,
Sealing
without Dead Spots**

Valves in the industrial fields of biochemistry, pharmacy, food and fine chemicals need to fulfill high technical standards and the lipstick valve achieves these standards.

Operational reliability, construction with minimized wear parts, service-friendliness, corrosion and temperature resistance as well as pressure resistance are only some properties which are important when it comes to making the decision for the right fitting.

Simple cleaning (C.I.P.) of the valves by changeover to the next product is a standard user requirement.

A unique design feature of the lipstick valve is the superimposed rotational and axial movement of the piston – just like in lipsticks – during the opening and closing operation.



In the closed position the piston is flush with the inside wall of any process vessel. This is an important difference compared to most conventional valves.

This results in the following features:

- No dead spots**

- Permissible pressure range between vacuum and 145 psi / 10 bar**

- Permissible operating temperature between 14° F / -10° C and 300 F / 150° C**

- Nominal width from 4 in / 100 mm to 11.8 in / 300 mm**

- Design suitable for C.I.P.**

- Reliable discharge of products which tend to encrustatin**

- Adaptation of the valve to the geometry of the vessel**

Description:

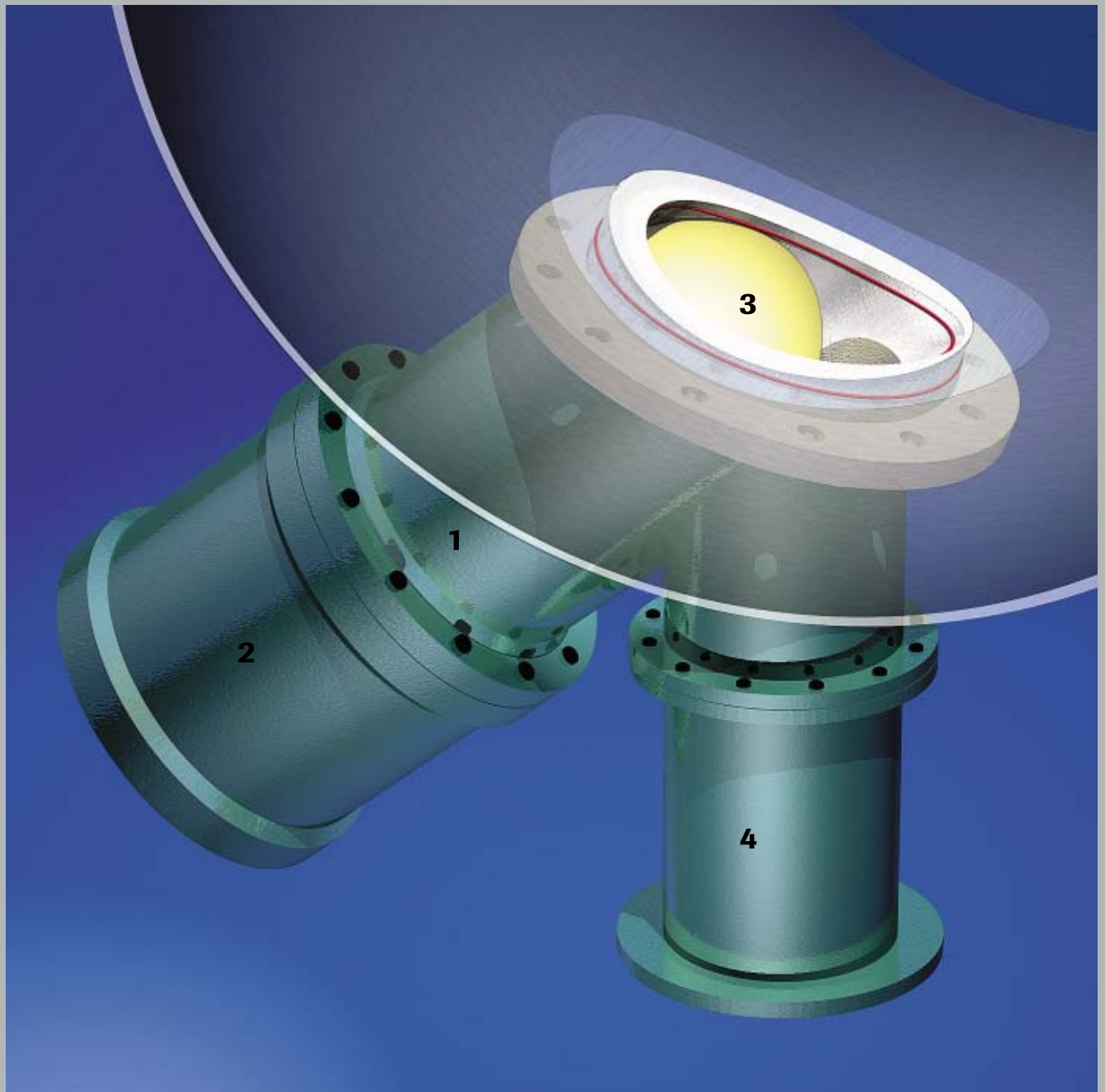
The lipstick valve consists of five principal components:

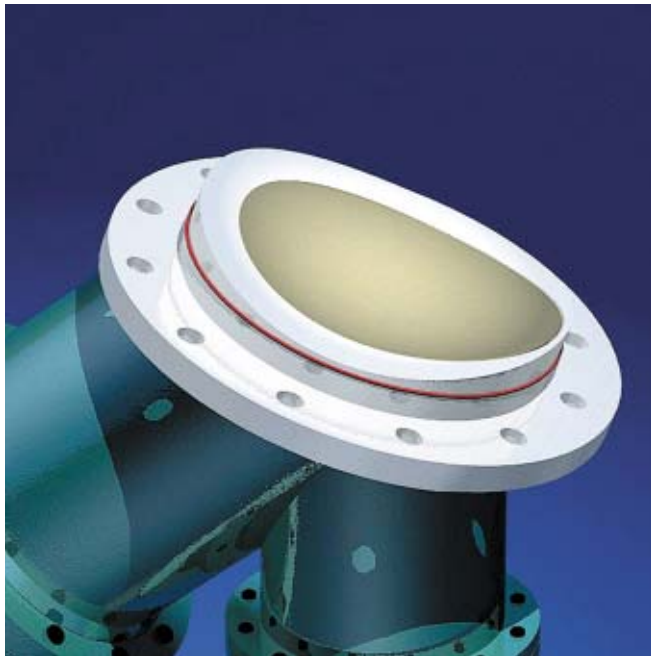
- 1 the V-shaped valve housing
- 2 the control cylinder with the translation spindle and the electric motor
- 3 the piston
- 4 and the discharge pipe

The main components are bolted together. Thus all parts are well accessible. Any maintenance work which may be required can be conducted easily. FDA approved seals are used between the main components and also between valve and vessel.

This area may be rinsed with liquid or purged with gas to avoid the accumulation of product between the casing and the piston.

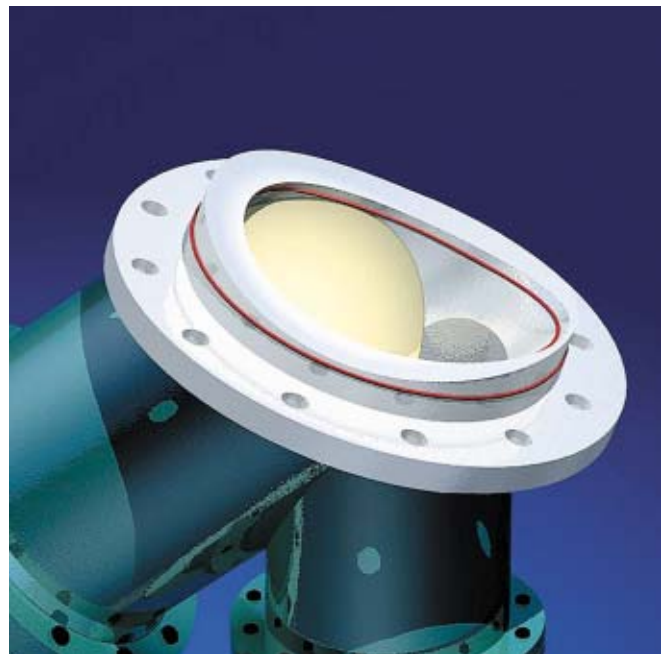
The lipstick valve is specifically adapted to the application in each case. After having fitted the lipstick valve to the vessel, the inlet port of the valve and the piston of the valve are flush thereby avoiding the creation of any dead spots where powder can remain in the vessel.



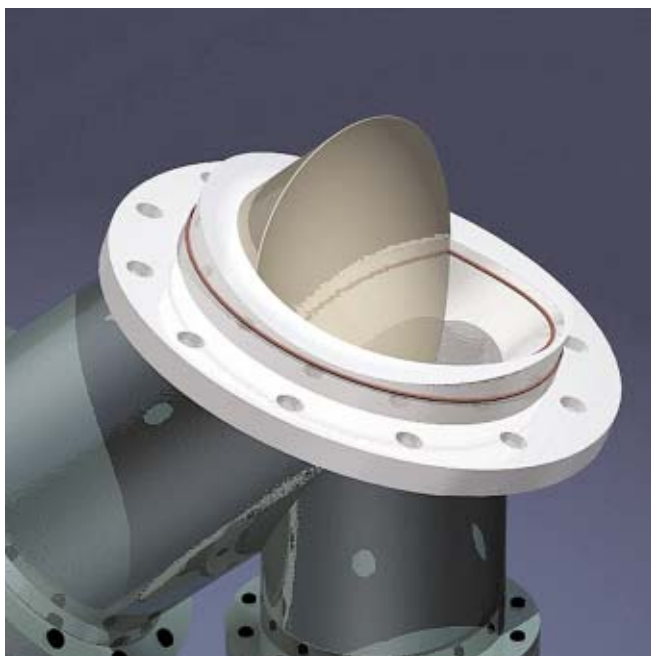


The closed lipstick valve is fitted to the vessel in such a manner that it is adapted fully to the contour of the inner surface.

From the vessel seal, free of dead spots, to the free product discharge with free circular cross section.



The standard opening process for the lipstick valve starts with a superimposed rotational and axial movement of the piston. During the first stage of the opening process the cross section of the valve remains blocked. Thereafter access to the discharge pipe is provided slowly.

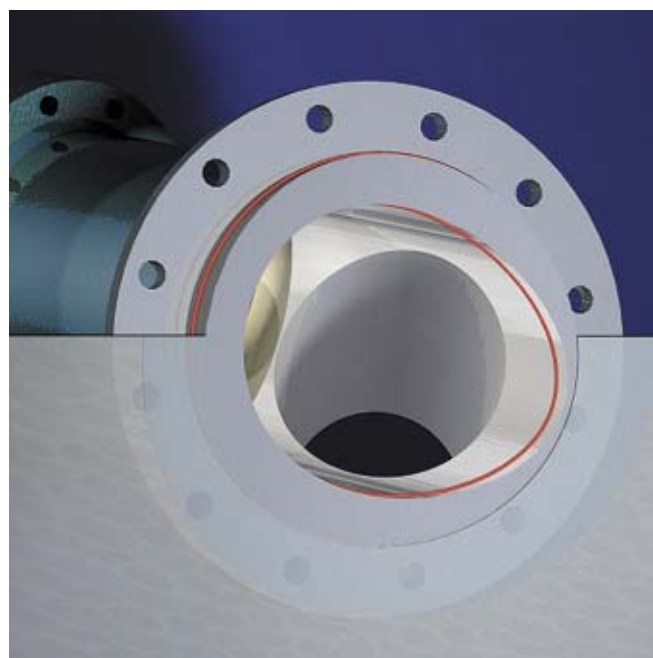


The lipstick valve may also be used for volumetric feeding of products capable of flowing.

The casing has a purge gas connection for the optional use of purge gas, which assures that no product can enter into the annular chamber between the piston and casing.

Discharging operations become difficult if a dryer or mixer becomes encrusted near the outlet walls of the process chamber.

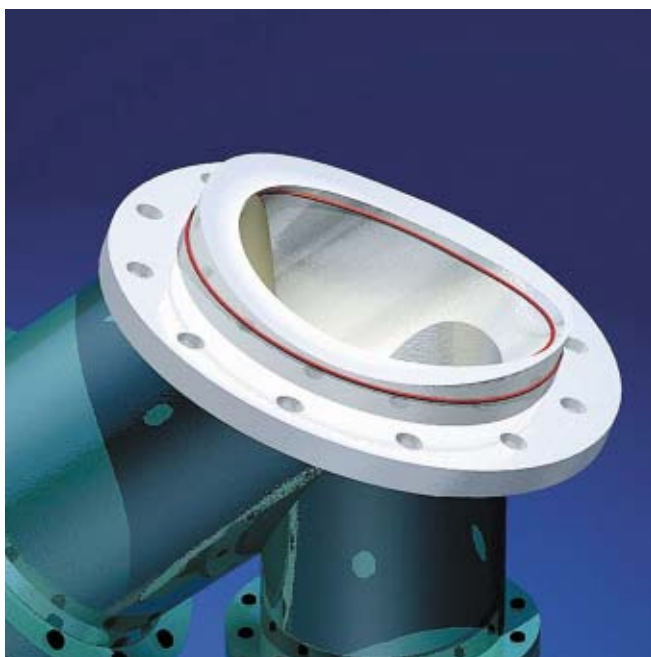
The control cylinder guiding the valve's piston is designed that upon opening the valve, the piston is initially made to rotate and translate into the process chamber. This will then break down any crusts, which may be present.



After a 180 degree turn, the discharge cross section is fully open and the product may then be discharged freely.

The valve is closed after reversing the motor's direction of rotation. When doing so, the piston cuts through the flowing product. The material located under the piston may flow out freely.

During the closing motion, the piston passes along the seal of the vessel thereby freeing the O-rings from any product which may have accumulated. This ensures that the valve will close reliably.

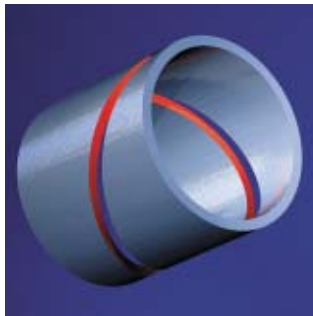


The lipstick valves are suited, and have been approved for fitting to pressure vessels. They are manufactured in full consideration of the pressure vessels code (P.E.D.) or country-specific regulations.

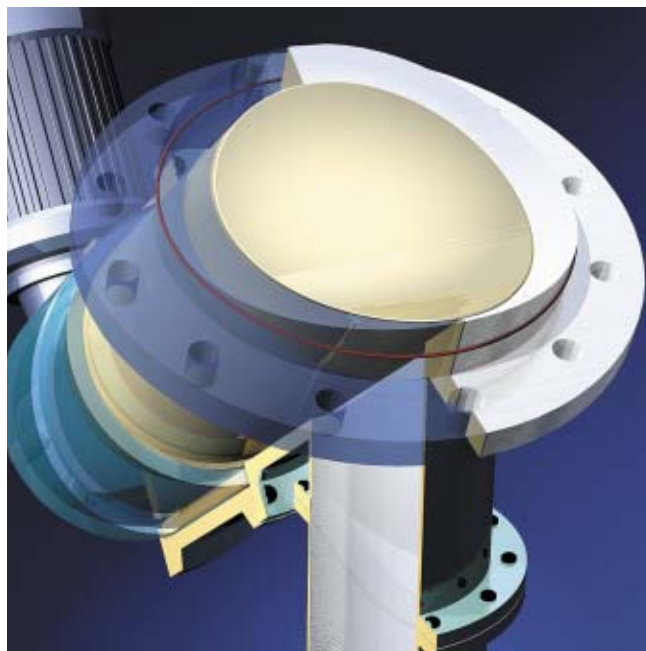
Lipstick valves may be manufactured from different stainless steel materials, different material combinations as well as Hastelloy and different metal coatings. Thus they can be adapted to the individual application.

Careful matching of the components and precision are the basis for a long service life without problems over many years.

This applies in particular to components with exceptional shapes, which are demanding.



An important component of the lipstick valve is the control cylinder, which through its positive fit ensures that the valve's piston moves along the predefined tracks.



Lipstick valves can be adapted to various applications. They are suitable for powdery, grainy bulk materials and also for liquids, suspensions as well as paste-like products which have the ability to flow.

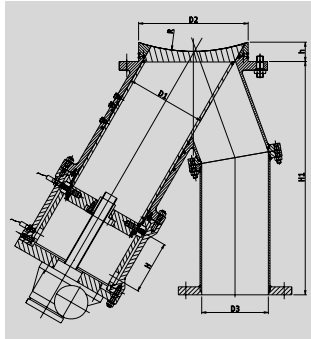
Typical applications are discharging operations from:

- **Paddle dryers**
- **Spherical dryers**
- **Mixers**
- **Silos or Vessels**

**Your experience
and
our know-how:**

The active exchange of experience with our customers provides us with important suggestions for the further development of our products. Your specific ideas with regard to requirements and system design allow us to provide a welltargeted problem-oriented solution.

The dialogue with our customers thus provides the basis for custom solutions and the optimum implementation of your requirements.



FIMA looks back on more than 50 years of engineering tradition as well as many years of experience in the processing of special high-quality materials. Highly qualified staff combined with team experience are an important requirement for the reliability and quality of our products – from the industrial fan to the centrifuge dryer.

You are cordially invited to come to our idyllic countryside home, in order to get an impression of our company, our staff and our first class products.



Bottom valve

Size	TBV-100	TBV-150	TBV-200	TBV-250	TBV-300
Vessel flange (DIN 28140) Cover, height h Connection dia. D2	DN 100 1.38 in	DN 150 1.57 in	DN 200 1.57 in	DN 250 2 in	DN 300 2 - 2.36 in
	Ø 5 in/129 mm	Ø 7 in/179 mm	Ø 9.2 in/234 mm	Ø 11 in/279 mm	Ø 13 in/329 mm
Drop tube/flange (DIN 2576) Drop tube dia. D3	DN 50 Ø 2.1 in Ø 54,5 mm	DN 80 Ø 3.15 in Ø 80 mm	DN 125 Ø 4.9 in Ø 125 mm	DN 150 Ø 5.9 in Ø 150 mm	DN 200 Ø 7.87 in Ø 200 mm
Piston dia. D1	Ø 2.76 in Ø 70 mm	Ø 4.7 in Ø 120 mm	Ø 6.3 in Ø 160 mm	Ø 7.9 in Ø 200 mm	Ø 9.45 in Ø 240 mm
Angle of rotation/lift H	180°/2.16 in	180°/6.7 in	180°/3.74 in	180°/4.7 in	180°/6.3 in
Drop tube, height H1	15.75 in 400 mm	20.5 in 520 mm	21.7 in 550 mm	23.6 in 600 mm	27.5 in 700 mm

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